



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

fw

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,681	07/14/2003	Yoshihisa Kamo		4131
24956	7590	05/10/2006		EXAMINER
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314			PHAM, VAN T	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,681	KAMO ET AL.	
	Examiner	Art Unit	
	VAN T. PHAM	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 3/14/2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 56-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 56-61, 63 and 64 is/are rejected.
- 7) Claim(s) 62 and 65 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 March 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed on 03/14/2006 with respect to claims 56-59 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 56-61 and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walberg (US 4,233,666) in view of the admitted art.

Regarding claim 56, see Figs. 2-4, discloses a method of starting up disk drive spindle motors in an array system having disk drives organized into groups which are started up separately so as to reduce the amount of electric current required by the array disk system, said method comprising: supplying current to start up a said spindle motor, and then supplying current to additionally start up one or more of said spindle motors other than said first group said spindle motors started up initially (see Fig. 1, col. 1, lines 11-30, col. 3, lines 1-9, col. 5, lines 10-21). However Walberg does not discloses a step of supplying current to start up a group of spindle motors, which is being more than one spindle motor.

The admitted art discloses the group of motors in the array disks system (see Fig. 3 and [0007]-[0009]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the group of motors in started in Walberg as suggested by the

admitted art, the motivation being in order to ensure accurate data regeneration even if one of disk drive or motor break down (see the admitted art [0008]).

Regarding claim 57, the combination of Walberg and the admitted art, discloses a method of starting up disk drive spindle motors in an array disk system as claimed in claim 56, wherein said supplying steps are performed such that a spindle motor in start-up is supplied with a start-up current, and a spindle motor at steady-state is supplied with a steady-state current that is lower than said start-up current (see Figs. 1-2, abstract, cols. 3-4).

Regarding claim 58, see rejection above of claim 56.

Regarding claim 59, see rejection above of claim 57.

Regarding claim 60, the combination of Walberg and the admitted art, discloses a method of starting up disk drive spindle motors in an array disk system as claimed in claim 56, wherein the time between power switch-on of the overall array disk system and start of driving the spindle motors is set independently for each of the groups of the disk drives so as to prevent overlap of the initial current among the groups (see Walberg Fig. 1, col. 1).

Regarding claim 61, the combination of Walberg and the admitted art, discloses a method of starting up disk drive spindle motors in an array disk system as claimed in claim 56, wherein the number of the disk drives constituting the individual groups decreases in the order that the groups are started up (see the admitted art Figs. 2-3).

Regarding claim 63, see rejection above of claim 60.

Regarding claim 64, see rejection above of claim 61.

Allowable Subject Matter

4. Claims 62 and 65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Walberg and the admitted art disclose a method of starting up disk drive spindle motors in an array disk system as claimed in claim 61, wherein after the start-up of the first group of spindle motors.

However, the cited references does not disclose or suggest the reserve power of a power supply that supplies the current to the first group of spindle motors is equal to the rated capacity of the power supply minus the amount of current required for maintaining the disk drives of the first group in the steady state.

Cited References

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

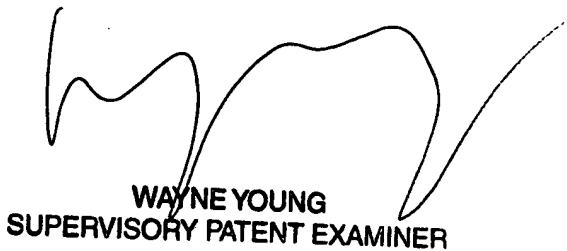
The cited references relate to a digital circuit interrupter includes a microprocessor programmed for tailored over current protection (Dougherty US 4,967,304) and disk system and power-on sequence for the same (Kamo et al US 6,397,294 and US 6,286,108); drive power sequencing (US 4,233,666).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN T. PHAM whose telephone number is 571-272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "WAYNE YOUNG" followed by "SUPERVISORY PATENT EXAMINER". The signature is written in a cursive style with some variations in line thickness.